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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/940,190

08/28/2001

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EXAMINER

HA, NGUYEN Q

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/940,190	<b>Applicant(s)</b> MIURA ET AL.	
	<b>Examiner</b> 'Wyn' Q. HA	<b>Art Unit</b> 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,7,9,10,14,21,22 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,8,11-13,15-20,23-25,27 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/11/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 8 and 15-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinzei (JP 07215551 A) in view of Miyakoshi (JP 05053395 A).

Claims 1, 8 and 17-20:

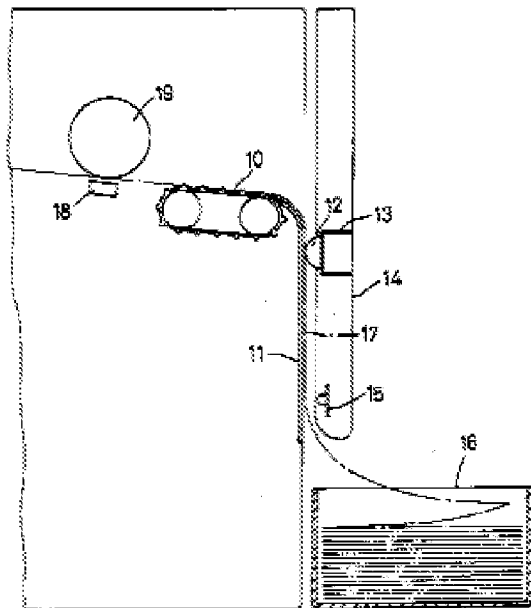
Chinzei teaches a continuous paper feeding apparatus for feeding a perforated continuous paper sheet to an image forming device (See figs. 2-7, reproduced below), comprising:

a paper supply device 16 configured to supply the continuous paper sheet 17;

a tractor 10 provided at a location upstream of said image forming device (18, 19) to feed the continuous paper sheet supplied from said paper supply device while engaging perforations of the continuous paper sheet;

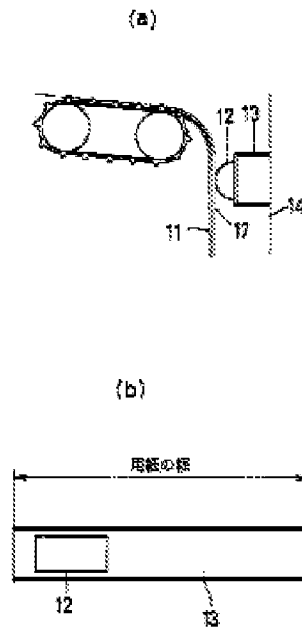
【図2】

第1の実施例に係る連続紙搬送装置の全体構成図。



【図3】

第1の実施例の變形例を説明する図。

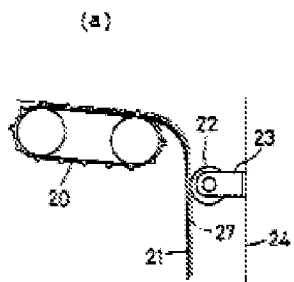


【図7】

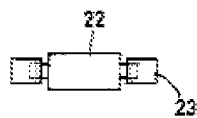
第3の実施例に係る連続紙搬送装置の構成図。

【図4】

第2の実施例に係る連続紙搬送装置の構成図。

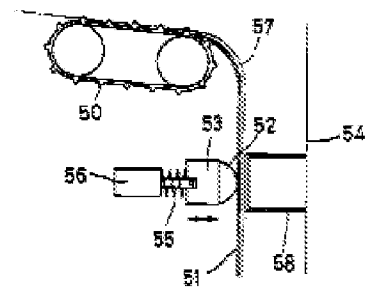
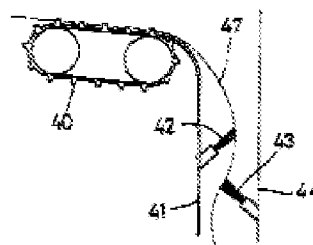


(b)



【図6】

第4の実施例に係る連続紙搬送装置の構成図。



a braking device 12 located between said paper supply device and said tractor and configured to apply a braking force to the continuous paper sheet (Paragraphs [0003] – [0007], summarized as follows: “when the carrying force of the feed roller located in the slipstream [downstream] side of the photoconductive drum 19 is too large compared with that of the feed tractor 10, there is a problem that the perforated holes in the paper will be torn, or the paper will separate from the feed tractor...By giving a paper a back load in an opposite direction to the feed direction, such a problem can be solved...the tearing of the holes will not occur and the paper will not separate from the feed tractor”);

a braking force setting device for variably setting the braking force (Paragraphs [0015] “By changing the back load... a paper skew is controlled [besides preventing the perforated from being torn or the paper from separating from the feed tractor].” Paragraph [0019] “Regulation which prevents generating of a paper skew can be performed by changing the back load.” Inherently, Chinzei's apparatus must have a braking force setting device for regulating the back load [i.e. for variably setting the braking force]);

a roller provided at a location downstream of said image forming device (18, 19) to feed the continuous paper sheet so that a feeding speed of the roller is slightly higher than that of the tractor (Paragraph [0002] “a photoconductive drum 19 being arranged in the slipstream [downstream] side of the tractor feeder 10, and a **feeder roller** which pulls the paper being further located in the slipstream [downstream] side.” Paragraph [0010] “The paper is pulled and conveyed by the **feed roller** [not illustrated] located in the slipstream side of the

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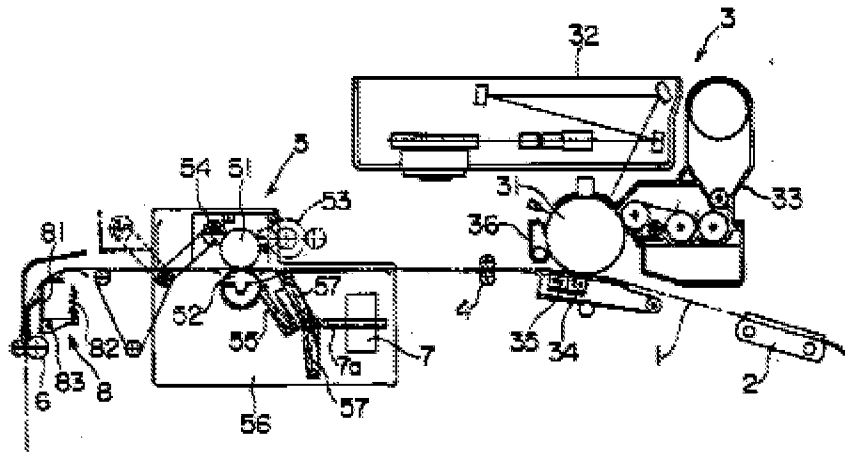
photoconductive drum 19.” Understandably, feeding speed of the feed roller must be slightly higher than that of the tractor 10 in order for the paper being pulled and conveyed by said feed roller), and

a controller to control the variable braking force applied by the braking device according to the setting made by said braking force setting device (Chinzei’s apparatus, as discussed above, regulates the back load to prevents generating of a paper skew and to prevent the perforated from being torn or the paper from separating from the feed tractor. Understandably, Chinzei’s apparatus must have at least a sensor to detect an amount of the paper skew and a controller to regulate the back load in response to the detected amount of the paper skew).

Chinzei is silent about whether the feed roller (not illustrated) comprises a pair of rollers.

Miyakoshi, as discussed in the Office action of 3/25/2008, teaches a continuous paper feeding apparatus (Fig. 1, reproduced below) for feeding a perforated continuous paper sheet 1 to an image forming device 3. The apparatus includes **a pair of rollers 4** which feeds the paper in a pulled state between the tractor 2 and the pair of rollers 4 (Abstract). Understandably, a feeding speed of Miyakoshi’s pair of rollers 4 must also be slightly higher than that of the tractor 2 in order to have the paper 1 in the pulled state.

【 1 】



It would have been obvious to one of ordinary skill in the art at the time the present invention was made to also have Chinzei's feed roller comprise a pair of rollers, in order to feed the paper, in view of Miyakoshi.

Claim 15:

Chinzei in view of Miyakoshi teaches a fixing device 5 (Miyakoshi's fig. 1) configured to fix the image onto the continuous paper sheet at a location downstream of said printing device 3.

Claim 16:

Chinzei in view of Miyakoshi teaches the fixing device 5 (Miyakoshi's fig. 1) applying tension to the continuous paper sheet (Abstract "the recording paper 1 is carried in a pulled state between the fixing device 5 and the scuff roller 6.")

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Evidently, the fixing device 5 together with the scuff roller 6 applies tension to the recording paper).

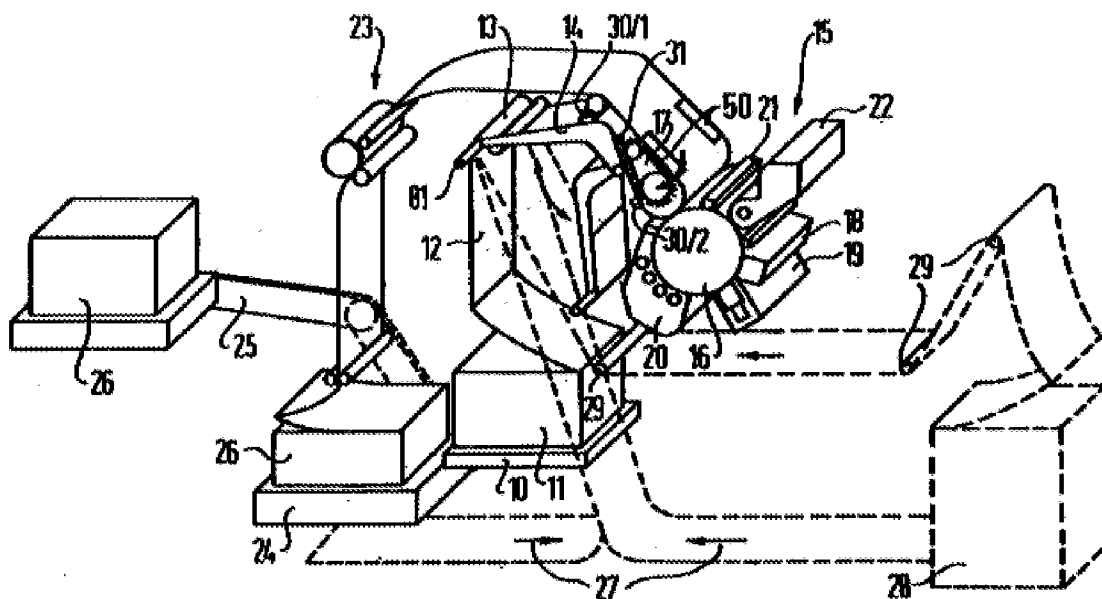
**Claims 4, 11 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinzei in view of Miyakoshi, as applied to claims 1, 8 and 17 above, and further in view of Rumpel (US 5,350,100).

Chinzei in view of Miyakoshi teaches the claims, except for setting the braking force according to a type of the continuous paper sheet.

Rumpel, as discussed in previous Office actions, teaches a perforated continuous paper feed device equipped with a tractor (48, 50) located upstream of an image forming device 16, and a paper brake 31 located between the tractor and a paper supply device; wherein “the brake effect is automatically adapted by the thickness of the continuous stationary 12 used. Thus with thin paper, the brake force must not be too large in order, for example, not to tear or stretch the paper. Due to the smaller thickness of the paper, the paper in the paper brake is deflected less and thereby undergoes a smaller braking force. Thicker paper is deflected more and accordingly braked more strongly (Col. 10 lines 15-24).”



**FIG 1**



It would have been obvious to one of ordinary skill in the art at the time the present invention was made to set Chinzei's braking force according to the thickness (i.e. type) of the continuous paper sheet, as taught by Rumpel, to prevent tearing or stretching the paper.

**Claims 5, 12 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinzei in view of Miyakoshi, as applied to claims 1, 8 and 17 above, and further in view of Ara Yoji (JP 61094955 A).

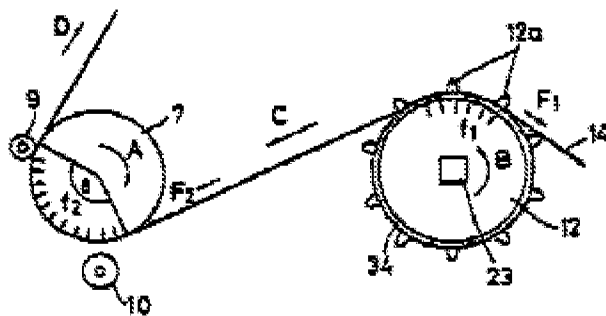
Chinzei in view of Miyakoshi teaches the claims, except for setting the braking force according to conditions of installation environment.

Ara Yoji, as discussed in previous Office actions, teaches a perforated continuous paper feed device equipped with a tractor 12 which automatically adjusts to create a proper braking force  $F_1$  according to conditions of an

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environment in which the device is installed. As such, the paper is prevented from being fed exceedingly to platen 7 by frictional force  $F_2$ . In other words, high temperature, high humidity, etc., may cause the paper to be fed exceedingly by frictional force  $F_2$ , thus the counter braking force  $F_1$  should be adjusted accordingly to prevent any excessive feeding (See Abstract).

第10圖



It would have been obvious to one of ordinary skill in the art at the time the present invention was made to have Chinzei's braking force adjusted according to conditions of installation environment, so that the paper is prevented from being fed exceedingly by the frictional force of the pair of feed rollers, in view of Ara Yoji.

**Claims 6, 13, 25, 27 and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinzei in view of Miyakoshi, as applied to claims 1, 8 and 17 above, and further in view of Wassermann (US 3,259,288).

Claims 6, 13 and 25:

Chinzei in view of Miyakoshi teaches a continuous paper feeding apparatus according to claims 1, 8 and 17.

Chinzei in view of Miyakoshi doesn't teach that the braking device includes an evacuating device to apply a suction force to the printing paper sheet.

Wassermann, as discussed in previous Office actions, teaches an evacuation device 19 disposed in a feeding path of a continuous paper which is fed by a tractor to an image forming device, so that the tensioning of the paper can be easily and accurately controlled, tearing of perforation holes can be prevented, the operation of the printer is greatly simplified, starting and stopping the paper is smoother (Col. 1 lines 42-70).

It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use Wassermann's evacuation device in place of Chinzei's braking device to apply a suction force to the printing paper sheet, so that the tensioning of the paper can be easily and accurately controlled, tearing of perforation holes can be prevented, the operation of the printing apparatus is greatly simplified, as well as to smooth out the starting and stopping of the paper when a user starts and stops the operation of the apparatus.

Also in light of the teaching above, it would have been obvious to one of ordinary skill in the art to use Wassermann's evacuation device (which variably sets the braking force) as a paper brake anywhere in a continuous paper feeding device with a tractor.

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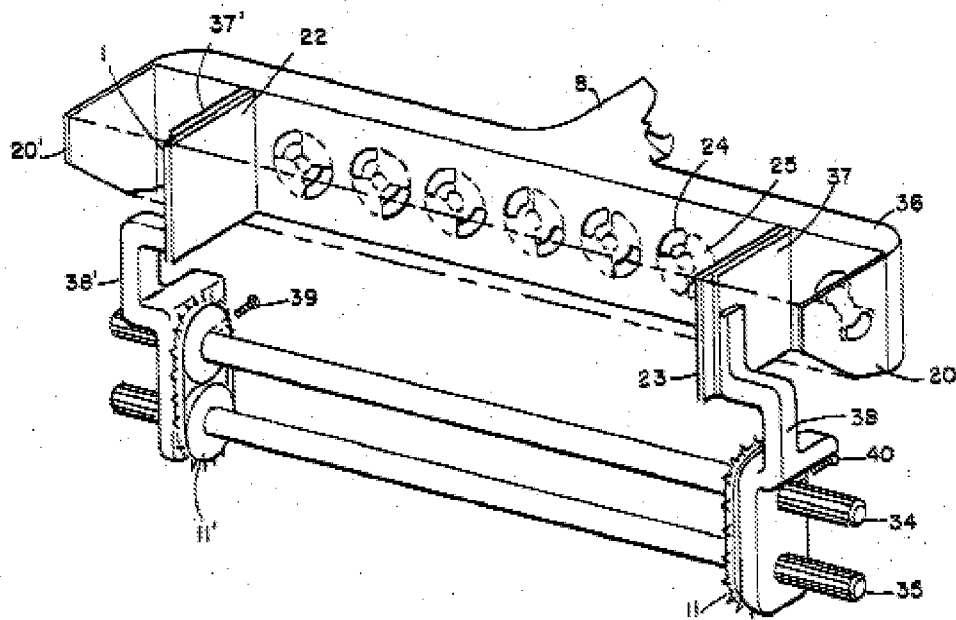
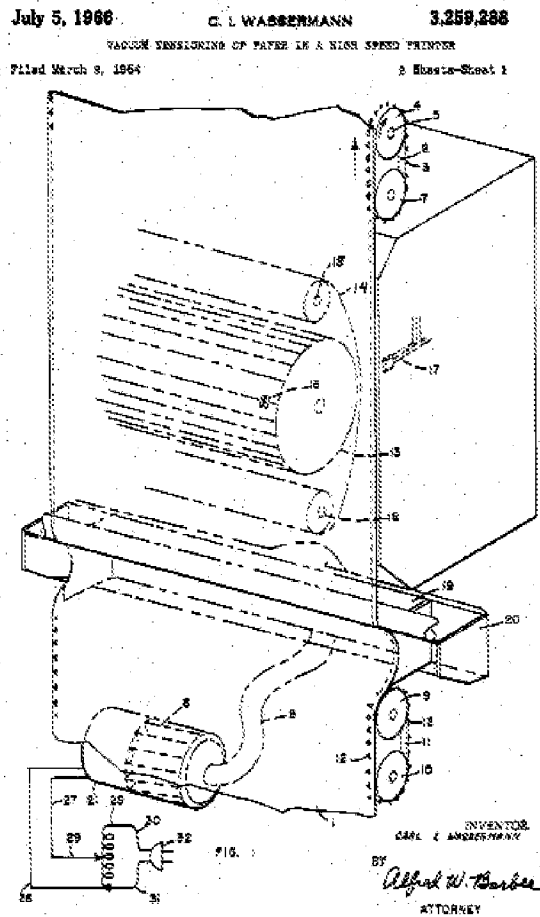


FIG. 2

Claim 27:

Chinzei in view of Miyakoshi teaches a continuous paper feeding apparatus according to claim 1.

Chinzei in view of Miyakoshi is silent about the braking force setting device sets the braking force based on a user-input submitted to the paper feeding apparatus.

Wassermann teaches a continuous paper feeding device with an evacuation device 19 to apply a suction force to a continuous paper sheet, wherein the braking force setting device setting the braking force based on a user-input submitted to the paper feeding apparatus. Namely, a user submits an input by adjusting end plates 22 and 23 (Fig. 2, reproduced above), thus a paper width is specified, and the vacuum chamber 19 is automatically adjusted to the corresponding width, and so is the braking force (Col. 2 line 57 – col. 3 line 2).

As discussed in above in claims 6, 13 and 25, it would have been obvious to one of ordinary skill in the art at the time the present invention was made to use Wassermann's evacuation device in Chinzei/Miyakoshi's apparatus. As a result, the braking force setting device would set the braking force based on a user-input submitted to the paper feeding apparatus.

Claim 28:

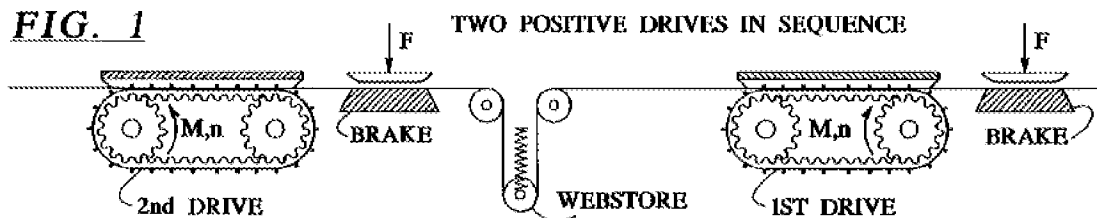
Chinzei as modified teaches a continuous paper feeding apparatus according to claim 27, wherein the user-input includes an indication of properties (e.g. width) of the continuous paper sheet.

### ***Response to Arguments***

Applicant's arguments with respect to all claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record but not being relied upon is considered pertinent to applicant's disclosure. US Patent 6,055,408 to Creutzmann et al. teaches a vacuum paper brake (Fig. 1, reproduced below) disposed in front of a conveying tractor to preclude tearing of the paper (Col. 11 lines 25-33).



Any inquiry concerning this communication or earlier communications from the examiner should be directed to 'Wyn' Q. HA whose telephone number is (571)272-2863. The examiner can normally be reached on Monday - Friday, from 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NQH

/Jill E. Culler/  
Primary Examiner, Art Unit 2854